Internationalisation of public sector research, a typology and global overview of international joint laboratories.

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Extended Abstract

Aim of the paper

This paper analyses the emergence of public sector international joint laboratories as an increasingly important new phenomenon in the internationalisation of public sector research. Based on secondary sources analysis and qualitative survey data, it explores the trends in the establishment of such units, the aims for which they are established and the extent to which these aims are being met.

Introduction

Over the past decades national governments increasingly see international research collaboration as a positive phenomenon. In order to facilitate this they offer various forms of institutional support ranging from international agreements which allow researchers from different countries to work together and share data, research material and research infrastructure to funding the establishment of research infrastructure in a different country and various measures to promote mobility and collaboration between these poles. It is this last phenomenon, the funding by a government and/or a governmental research organisation of the establishment of research laboratories in a foreign country which is of interest to this study. More specifically the paper focuses on the various types of international joint laboratories which have been formed in the past decade.

The last decade saw a rapid rise in the establishment of foreign R and D units by companies in foreign countries. The focus of this project does not include these private laboratories or the public-private international laboratories set up by multinational organisations in universities or research institutes. While the paper touches upon them the main focus is not on the large multinational research institutes like CERN, the EMBL, EBI, and ITER. Rather the paper concentrates on the establishment of often relatively small research laboratories in universities or research institutes in a different country the main aim of which is to facilitate research collaboration between organisations and scientists in two countries.

As French and German research organisations have been most active in the establishment of such organisations they receive most attention but these actitivities are compared with the joint labs established by other European, North American and Asian (Pacific) research organisations. The phenomenon is of interest not only because it is an important element of the internationalisation strategy of some of the major European research organisations, but also because it has become a prominent feature of the internationalisation of the research systems of countries like China. The phenomenon is expected to become more prominent in other Western and large emerging research systems as well.

Research question:

What are the different institutional and organisational forms in which international joint laboratories have been established in the past decade, what are the organisational goals for doing so, and to what extent are the expectations being met

Methodology

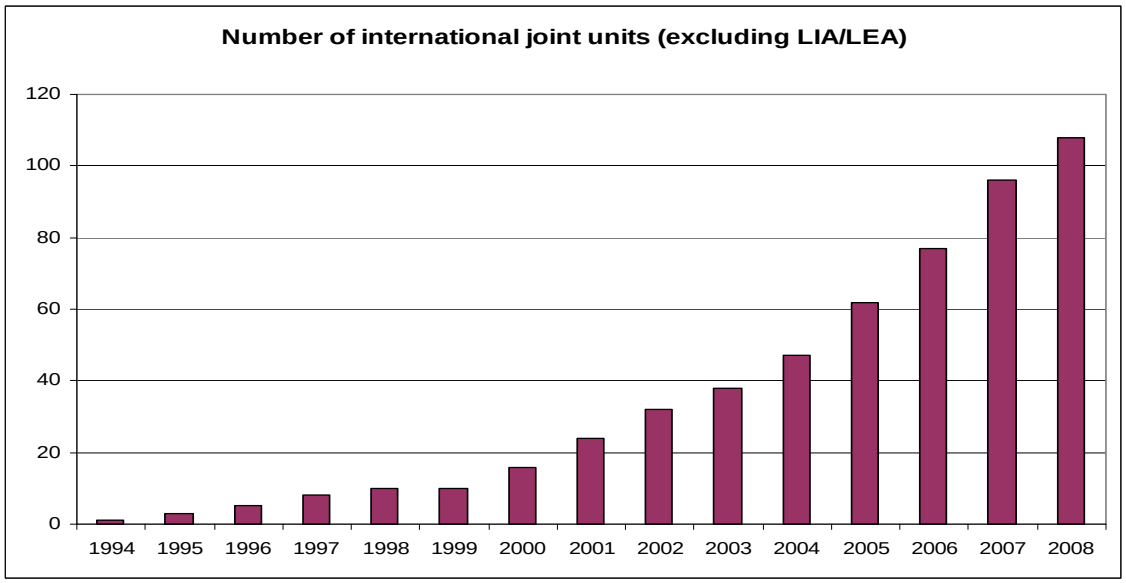
When discussing so-called international joint laboratories it is important not to start with a narrow operational definition and to realise that this group of sub-organisations is very heterogeneous in terms of size, physical and juridical set up. The next section of this paper will account for this diversity by means of a typology of international joint laboratories which are grouped according to these three dimensions.

The paper continues by providing an overview of the frequency with which new organisations are established and the countries in which most of these organisations are set up over the last decade.

Finally it discusses the results of a survey of the directors of these joint laboratories (N=110) as well as interviews with the managers in charge of international relations in major (European) research funding and performing organisations. This qualitative data sheds light on the goals for the establishment of these joint laboratories and the extent to which the establishment of joint laboratories has led to the expected consolidation of collaborative ties between the respective organisations.

Preliminary Results

At present over 160 international joint laboratories established by European, North American and other countries funding organisations in the past decade, and their directors have been identified. By far the largest number of international joint laboratories (89) has been established in China with smaller numbers in India (12), Japan (10), Argentina (6), France (9) and a number of other countries. Germany and France are the countries whose research organisations, the Max Planck Gesellschaft and the CNRS, are most active in the establishment of international joint laboratories in other countries. In addition to these 160 international joint laboratories, the French research organisations CNRS and INSERM established at least 65 so-called international/European associated laboratories (LEA/LIA) which under a very broad definition could also be classified as international joint laboratories. They are not included in figure 1 which shows the stock of international joint units operational in each year between 1994 and 2008.



The organisations vary from virtual laboratories without a juridical personality, fixed staff or fixed physical location (e.g. the Laboratoires Internationales Associés of the CNRS), to research laboratories which are funded and owned by two or more research organisations and do have, a fixed location, their own infrastructure as well as permanent staff. There are also entire international joint institutes with a number of laboratories, their own juridical identity and a (much larger) permanent staff (e.g. the Institute Pasteur in Shanghai). The first real joint laboratories were established in the early 1990s and the number has risen quickly in the last ten years as shown in figure 1.

An interesting case is China because it concentrates a large proportion of these new ventures and because the Chinese ministry of Science and Technology has made an explicit strategic commitment to the promotion of the establishment of more international joint laboratories. At the level of the national research system there is not yet a visible effect of the number of joint laboratories on the strength of China's bilateral co-publication ties (Jonkers, 2009). The role of the joint labs in providing a platform for bilateral cooperation and mobility between research organisations in China and (primarily) Western Europe is evident, though at this moment still only on the basis of anecdotal evidence..

Conclusion

To conclude the paper will discuss some organisational and institutional differences and similarities of the different types of joint laboratories. It will also discuss the role which the international joint labs play in the internationalisation of emerging research systems at present and the expected increase in their importance in the short term future. We believe that a number of analytical and policy implications will be drawn from this study.

Bibliography

Jonkers, K, 2009, "Emerging ties, factors underlying China's changing co-publication patterns with Western European and North American research systems in the molecular life sciences", *Scientometrics* (in press).